

Biblical Entheogens: a Speculative Hypothesis¹

Benny Shanon

Benny Shanon is Professor of psychology at the Hebrew University of Jerusalem (Israel). His main foci of research are the phenomenology of human consciousness and the philosophy of psychology. His publications include *The Representational and the Presentational* (1993) and *The Antipodes of the Mind* (2002). At present, he is working on a book devoted to a general psychological theory of human consciousness. msshanon@mscc.huji.ac.il

Abstract

A speculative hypothesis is presented according to which the ancient Israelite religion was associated with the use of entheogens (mind-altering plants used in sacramental contexts). The hypothesis is based on a new look at texts of the Old Testament pertaining to the life of Moses. The ideas entertained here were primarily based on the fact that in the arid areas of the Sinai peninsula and Southern Israel there grow two plants containing the same psychoactive molecules found in the plants from which the powerful Amazonian hallucinogenic brew Ayahuasca is prepared. The two plants are species of Acacia tree and the bush *Peganum harmala*. The hypothesis is corroborated by comparative experiential-phenomenological observations, linguistic considerations, exegesis of old Jewish texts and other ancient Mideastern traditions, anthropological lore, and ethnobotanical data.

Keywords: entheogens, psychedelic, psychotropic, shamanism, Old Testament, Acacia, *Peganum harmala*, Ayahuasca

In his book *Poisons sacrés, ivresses divines* (which, to my knowledge, has not been translated into English), Philippe de Félice (1970 [1936]) reviews various cultures throughout the world and notes the use of psychotropic substances in them. The use of such substances, most of which fall in our contemporary Western culture under the label "drug," has in many traditions been considered sacred. Indeed, de Félice points out that in many religions, both in the old world and in the new, the use of such substances was (and often still is) central. The substances, or the plants from which they were produced, were deemed holy and at times even divine. De Félice puts forward the hypothesis that the use of psychotropic substances is deeply embedded in human culture and intrinsically intertwined with what he characterizes as the most basic human instinct—the search for transcendence. Thus, he proposes, the use of psychotropic substances is at the root of perhaps all religions.

Subsequently, similar ideas have been expounded in various different quarters. Indeed, an increasing number of people refer to the psychoactive agents more generally known as psychedelic (mind-expanding) or hallucinogenic by the term entheogen—that is, agents that bring one in touch with the Divine within. This term was coined by Ruck et al. (1979) and further discussed by Ott (1996) and by Jesse (2001). For discussions of the relationship between entheogens and the origin of religion, as well as that of the use of entheogens in religious practices, the reader is referred to La Barre (1972), Wasson et al. (1986), Ott (1995), Smith (1964, 2000), the anthologies edited by Forte (1997), Roberts (2001), and Labate

and Goulart (2005) as well as Devereux (1997) and Rudgley (1993), the reviews by Shanon (2001b, 2002c) and the non-scientific proposals of McKenna (1992). A modern experimental study of the religious import of psychoactive substances is that of Pahnke (1972); illuminating intellectual discussions of the spiritual and religious significance of entheogens are offered in Smith (1964, 1976, 2000).

The recourse of powerful psychoactive plants and preparations in order to establish contact with the higher realms of spirituality has been at the very heart of shamanic practices all over the globe. Special mention will be made below of the major instrument of Amazonian shamanism, the hallucinogenic brew Ayahuasca. Psychoactive plants and substances were also prominent in the urban cultures of pre-Colombian America—the Aztec, the Mayan and the Incaic. For further information the reader is referred to Dobkin de Rios (1984), Harner (1972, 1973), Langdon (1979), Langdon and Baer (1992), Reichel-Dolmatoff (1975, 1978), Walsh (1990), and Winkelman (1995, 2000). Further information on hallucinogens and their role in traditional cultures is found in Dobkin de Rios (1984), Furst (1976, 1990), Harner (1973), Ott (1993), and Schultes and Hoffman (1992). For works especially concerned with pre-Colombian America see Emboden (1981, 1982), Emboden and Dobkin de Rios (1981), Ott and Wasson (1983), Ripinsky-Naxon (1998), Schultes (1972), Schultes and Winkelman (1995), and Wasson (1961, 1980).

But psychoactive plants and substances also played a key role in the religions of the old world. Wasson (1968) proposed that Soma, the magical nectar of the Hindu Vedas,



Figure 1 Peganum Harmala
(photo: Avinoam Danin)

was actually an infusion of a hallucinogenic mushroom, *Amanita muscaria*. The sacred drink employed in ancient Zoroastrian religion, the *Homa* or *Haoma*, was also suggested to be a psychoactive agent, its constituent plant being the shrub *Peganum harmala* (*harmal* in Arabic). Indeed, Flattery

and Schwartz (1989) argue that the Indian Soma was made of this shrub, not of a mushroom as suggested by Wasson.

The literary evidence concerning the prominence of altered states of consciousness in the religious rites of ancient

India and Persia is quite abundant. The Rig Veda, the oldest classical Vedic scripture, is a compendium of hymns to Soma. In these, worshipers often praise the brew as a divinity and mark the special effects that it has induced in them. Zoroastrian hymns to Homa are similar. The following are my own free translations of textual examples presented in de Félice (1970 [1936]):

Oh, King Soma, prolong our lives
Like the sun who nourishes the days every morning.

*

The Soma is full of intelligence
It inspires man with enthusiasm
It makes the poets sing.

*

We have drunk the Soma: we have come to be immortal, we have arrived at the Light, we have reached the Gods.

*

Half of me is in the skies, and the other extends to the low depths
Have I drunk Soma?
I am tall to the utmost, my elevation reaches the clouds
Have I drunk Soma?

(Rig Veda)

Oh Haoma of gold, I am asking you for wisdom, force, victory, health, healing, prosperity and grandeur.

(Zen Avesta)

As for ancient Europe, Wasson and his collaborators (Wasson, Hoffman, and Ruck, 1978; Wasson et al. 1986) proposed that at

the center of the famous Greek mysteries of Eleusis was the consumption of yet another psychoactive brew, one containing ergot alkaloids. (See also Ruck 2006, where the entheogenic role of mushrooms is discussed.)

Suggestions have been made that the three great monotheistic religions of the West—Judaism, Christianity, and Islam—also have their roots in the consumption of psychoactive substances. In his famous and controversial *The Sacred Mushroom and the Cross*, Allegro (1970) associated the origin of Christianity to a psychoactive mushroom; this work is primarily based on philological analysis. Other entheogenic theories concerning early Christianity were later put forth by Ruck, Staples, and Heinrich (2001) and Ruck (2006) as well as by Bennett and McQueen (2001) and, most recently, Goss and Camilla (2007). In particular, basing their argumentation on the analysis of works of art and textual exegesis, Ruck and his associates proposed that early Christianity involved the use of psychoactive mushrooms. Further religious artwork from medieval Spain and Italy portrays associations between datura and sacred knowledge, hence a possible indication of an entheogenic use of this potent psychoactive plant (Celdrán and Ruck 2001).

Similar suggestions were also made in conjunction with Islam. Studying Arab and Bedouin folklore in southern Jordan, the independent investigator Rami Sadji hypothesized that Islam and pre-Islamic Arab religion are grounded in the use of entheogens (Sadjii at www.acacialand.com). And just as this manuscript went to press, a most interesting scholarly work discussing entheogens in Islam appeared (see Dannaway, Piper, and Webster 2006).

This paper is concerned with Judaism. Merkur (1985, 2001), a psychoanalyst and student of religion, proposed that the Manna the people of Israel received from heaven during their wandering through the Sinai desert was actually an entheogen. Here I would like to put forth a hypothesis, admittedly speculative, regarding other enteogenic uses in early Hebrew religion.

Before turning to the subject matter itself, I would like to clarify the nature of my involvement in the issues at hand. I am a cognitive psychologist and a philosopher of psychology whose main professional concern is the phenomenology of human consciousness. For about twenty-five years I have been studying normal waking consciousness, and I have attempted to formulate a structured theory thereof (see Shanon 1989, 1998c, in press). Fifteen years ago, the contingencies of life led me to encounter the Amazonian powerful psychoactive brew Ayahuasca, and to have my first personal experiences with it. Subsequently, when reading about the topic, I was struck by the similarity between the visions I have had with the brew and those reported in the records of the experiences of indigenous Amerindians. This made me entertain the idea that Ayahuasca visions are not, as anthropologists have claimed (see Reichel-Dolmatoff 1975), the manifestation of the fantasies of the minds of primitive people, but rather a symptom of the working of the human mind, the mind of Homo sapiens in general. I shall note that at the time of my first encounter with Ayahuasca practically all scientific studies of this brew belonged either to the natural sciences (botany, pharmacology, physiology, and medicine) or to cultural anthropology. My

assessment, however, is that in its essence, the phenomenon at hand pertains to the realm of internal experience, and thus to the discipline concerned with mind and consciousness. In line with the pioneering insights of William James (1929) and Aldous Huxley (1971), I regard the study of psychoactive plants and their effects as a most precious avenue for the study of the human cognitive system in general and of the phenomenon of consciousness in particular. Thus, I have launched the first cognitive-psychological study of Ayahuasca ever conducted.

Empirically, my work is based on the interviewing of a large number of persons coming from different locales and contexts of use as well as on my own extensive experience with this brew. (I have partaken of it about 160 times in various locales and contexts.²) Theoretically, this research project presents a systematic, comprehensive charting of the various facets of the Ayahuasca experience and offers a novel theoretical framework to conceptualize them from a cognitive psychological perspective. The results of these investigations are reported in my comprehensive monograph *The Antipodes of the Mind* (Shanon 2002a) as well as in Shanon (1998a, 1998b, 2002b, 2003a, 2003c). One main finding of my research is that, indeed, Ayahuasca visions exhibit significant inter-personal commonalities that defy socio-cultural variations.

Lastly by way of introduction, I am a Jew who, though not observant, finds the Jewish textual heritage to be personally very meaningful. Following my experiences with Ayahuasca, I came to regard various aspects of the Jewish heritage from a new

perspective. Propelled by ideas on the role of entheogens in human history such as those reviewed above, I am here proposing still another entheogenic, admittedly speculative, hypothesis. The hypothesis originated in the finding of parallels between psychological effects induced by Ayahuasca and patterns described in the Bible in conjunction with special experiences and events in the life of the founder of the Israelite religion and its greatest prophet, Moses. The hypothesis is further corroborated by botanical and ethno-botanical information that I have collected, by linguistic considerations, by the exegesis of Talmudic and mystical Jewish texts, by anthropological information pertaining to Jewish and Mideastern traditional lore, as well as by psychedelic data pertaining to a concoction analogous to Ayahuasca. The textual and empirical information discussed below was gathered from various domains and pertains to a variety of academic and cultural disciplines. Some of the findings noted here are new, and the bringing of the different elements together is originally mine. All told, I would say that this research has been conducted in a way similar to that of an independent detective-like investigation.

Ayahuasca

Before I turn to Moses and the Bible, let me present some further information about Ayahuasca and about the Mideastern bush, harmal.

Ayahuasca is one of the most important, and most powerful, of the psychoactive agents employed in Amerindian cultures (see Schultes 1982). Etymologically, "ayahuasca" in Quechua (the language of the Inca empire) is a compound word meaning

"the vine of the spirits" or "the vine of death." The brew is made out of two plants. Usually, the first is *Banisteriopsis caapi* (*Malpighiaceae*), a liana, whereas the second is *Psychotria viridis* (*Rubiaceae*), a bush which in the vernacular is referred to as *chacruna*. In common parlance, the term Ayahuasca is used to refer not only to the brew but also to the first of the two constituent plants. The indigenous peoples of the upper Amazon region have used Ayahuasca for millennia, and in the vast region including western Brazil and the eastern areas of Ecuador, Peru and Colombia, Ayahuasca has been the main pillar of the native culture. In the past, Ayahuasca was used for all major decisions of a tribe, particularly declaring war and locating game for hunting. It was also at the center of initiation rites. Today, Ayahuasca remains a common instrument of shamans and medicine-men (see for instance Reichel-Dolmatoff 1971, 1975, 1978; as well as Dobkin de Rios 1972, 1992; Langdon, 1979, and Luna 1986). The brew also serves as a pivotal sacrament in several new syncretic religions that bring together the old Amerindian traditions of the Amazon and popular Christianity (see Labate and Sena Araújo 2002; Polari 1999).

Typically, Ayahuasca induces powerful visions as well as hallucinations in all other perceptual modalities. Pronounced nonperceptual cognitive effects are also manifest. These include personal insights, intellectual ideations, affective reactions and profound spiritual and mystical experiences. Moreover, Ayahuasca may introduce those who partake of it to what are experienced as other realities. Those who consume the brew may feel that they are gaining access to new sources of knowledge and that the

mysteries and ultimate truths of the universe are being revealed to them. All this is often coupled with what Ayahuasca drinkers describe as an encounter with the Divine.

Chemically, the main active constituents of the brew are the alkaloids N,N-Dimethyltryptamine or DMT, harmine, and harmaline. The first is a potent hallucinogen, but it is inactive when taken orally. The deactivation of DMT is itself blocked by the other constituents, all beta-carbolines which are monoamine oxidase (MAO) inhibitors. The beta-carbolines protect the DMT from deamination by the MAO and thus render it orally active. (For a classical review, see Schultes 1972; for more recent comprehensive discussions, see Ott 1993, 1994, as well as Strassman 2001.)

The consumption of each constituent of the Ayahuasca potion alone does not result in hallucinatory effects.³ For this, the two indicated plants (or their functional equivalents) are needed. Specifically, DMT, the substance inducing the hallucinations, is found in the chacruna, whereas the other compounds are found in the Ayahuasca vine. It is often said that the first constituent gives light, whereas the second gives forceful energy, but for the hallucinogenic effects the combination of the two is necessary. At times, alternative constituent plants are used, but the basic principle is always maintained: one plant contains DMT whereas the second contains the MAO inhibitors.

As noted above in Brazil there are several syncretic religions combining Christian and/or African traditions with Ayahuasca rituals. In one such religion, the Church of Santo Daime, hymns are sung during the Ayahuasca (in that context the brew is called *Daime*—in

vernacular Brazilian Portuguese, “give me”) session. Personally, I was very much struck by the great similarity between many of these hymns and those of the Vedic and Zoroastrian traditions. The following are my own free translations of some representative fragments of Daime hymns; the interested reader is referred to MacRae (1992) and Polari (1999):

Daime force, Daime light
Daime love!⁴

*

Daime ... the professor of all professors

*

I have taken this drink
It has incredible power
It demonstrates to all of us
Here in this truth

I have climbed, I have climbed, I have
climbed

I have climbed with joy
When reaching the Heights
I encountered the Virgin Mary

I have climbed, I have climbed, I have
climbed

I have climbed with love
I have encountered the Eternal Father
And the Redeemer, Jesus Christ

The hymns from which these fragments are taken are said to have been received by the founder of the Daime Church, Mestre Irineu Sera, a rubber-plantation worker who lived in the Bolivian and Brazilian Amazon during the early part of the twentieth century. Surely, he did not know of either the Vedas or of the Zoroastrian religion. I have cited from these hymns, even though they pertain to

a tradition totally different from that which is the topic of this paper; to give further support to the hypothesis, made by Flattery and Schwartz (1989) and cited above, according to which the Hindu Soma and the Iranian Haoma are to be identified with *Peganum harmala*, the Near Eastern harmal.

Harmal

The MAO inhibitors harmine and harmaline contained in *Banisteriopsis caapi* are also found in the above mentioned shrub of the Near East, *Peganum harmala*. Indeed, the scientific name of the plant as well as the names of the active substances in question derive from the name *harmal*. In Arabic, this means "taboo" as well as "sacred." Of the same root is the Hebrew word *herem*, which means "taboo."

Having had quite extensive experience with Ayahuasca, I was curious about harmal. Following the instructions of Dr. Mina Paran, a pharmacologist who is an expert on the medicinal plants of the Land of Israel, I found a large field of the plant. It was just in front of the Qumran caves, the home of the Essenes, the ancient Judaic (and perhaps proto-Christian) mystic group who lived in the Judaean desert from the second century BCE to the second century CE. Qumran is also the place where the oldest biblical manuscripts (along with other religious texts), the so-called Dead Sea scrolls, have been found. I was startled. Intuitively, it seemed to me evident: The Essenes must have made use of this psychoactive plant. I did not have any empirical proof for this but found the coincidence most powerful.

In the Bible there is not a single mention of harmal. Or rather, we do not know of any. Of course, the old Hebraic text is replete

with names of plants whose botanical identification we do not know or of which we cannot be certain.

However, harmal is associated with a long medicinal tradition in the Near East. Feliks (1997) reports that a twelfth-century Jewish encyclopedia-like text describes harmal as a medicinal plant. Inquiries I have made in Israel with Jews from Iran and Morocco confirmed that harmal was traditionally associated with various magical and curative powers. In Iran, harmal (known as *asphan*) incense was used to exorcize evil spirits, whereas Moroccan Jews used harmal in various medical treatments as well as for the induction of abortion. Further still Yemeni Jews used the plant to heighten one's spirit and in treatments against depression, and in (Arabian) Egypt it was known to have hallucinogenic properties (for reviews of which, see Emboden 1972; Danin 1983; and Palevitch and Yaniv 1991). Surfing on the Internet I encountered the above-mentioned site of the Jordanian researcher of traditional Bedouin medicine, Rami Sajdi. Sajdi discovered that Bedouin healers have used harmal for both medicine and sorcery. Sajdi also reports on many mythological and folkloristic tales associated with the plant.

Moses and the Psychedelic Experience

Let us now go back to the Old Testament, to Moses. As written in conjunction with his passing away, at the very end of the Pentateuch: "There arose not a prophet since in Israel like unto Moses, whom the Lord knew face to face" (Deuteronomy 34:10; see also Exodus 33:11; all citations in this paper are taken from the King James translation). Indeed, in the Jewish tradition it is said that

whereas all prophets saw the divine through a speculum that does not shine, only Moses saw God through a speculum that shines and spoke to him directly, face to face (Babylonian Talmud, Tractate Yevamot, 49b); for further discussion, see Scholem (1993) and Wolfson (1994).

Following are five episodes in Moses' life that struck me as exhibiting patterns that are typical of psychedelic experiences. More specifically, all patterns are very similar to ones that, in my own personal experience corroborated by interviews with a great number of other users of the brew, are encountered while under the effects of Ayahuasca.

The first episode is Moses' very first encounter with God. It took place in the Sinai desert, where Moses resided with his father-in-law, Jethro, who was the priest of the desert people of Midian. Consider the following:

Moses kept the flock of Jethro ... and he led the flock to the backside of the desert, and came to the mountain of God, even to Horeb. And the angel of the Lord appeared unto him in a flame of fire out of the midst of a bush: and he looked, and, behold, the bush burned with fire, and the bush was not consumed. And Moses said, I will now turn aside, and see this great sight, why the bush is not burnt. And when the Lord saw that he turned aside to see, God called unto him out of the midst of the bush, and said, Moses, Moses. And he said, Here am I. (Exodus 3:1–4)

Encountering the Divine is one of the most powerful experiences associated with high-level Ayahuasca inebriation, (For an extended description of the experiences within the

indigenous Amazonian context, the reader is referred to Payaguaje 1983; for other examples and further discussion, see Shanon 2002a, 2001b, 2002c.) Experiences of this kind, however, are private and delicate to the utmost and I prefer not to comment on them further. Rather, I would like to focus on the other element in the description, the bush which was not consumed.

I propose that this event involved no change in the real world, having nothing to do with either the bush or the fire. Rather, it reflected a radical alteration in the state of consciousness of the beholder—that is, Moses. Moses' sense of time changed, and an actual moment in physical time was subjectively perceived as an eternity. Such altered perception of time is common with high levels of Ayahuasca inebriation (Shanon 2001a). Thus, gazing at the bush, Moses felt that much time had passed. In particular, he felt that enough time had passed for the bush in front of him to be burnt and consumed. But in the external physical domain, only a fraction of a second had elapsed, hence no actual change in the bush was perceived.

Also of interest is a comment made by Feliks (1994) in a lexicon of plants of the Holy Land. He notes that various (uncited) investigators have proposed that the bush was either a plant that produces light scintillations or that it was a hallucinogen. In the latter case, he suggests the gum that grows on acacia trees. We shall return to acacia below.

A second biblical episode is that of the encounter of Moses and his brother Aaron with Pharaoh's sorcerers. In it both parties transformed rods into serpents (or great reptiles). As attested by both the

anthropological literature (for a review, see Luna and Amaringo 1991) and my own empirical research (Shanon 1998a, 2002a), in Ayahuasca visions serpents are most common. Moreover, visions in which rods and pillars of wood are transformed into serpents are reported as well.

Third, let me turn to the most sacred and tremendous event in the Hebrew Bible—theophany at Mt. Sinai. It is on this occasion that the Ten Commandments were given and it was then that the covenant between God and Israel was established. With this, Israel was made into a people. All the Children of Israel were present. They had to prepare themselves in three days of purification and sanctification, during which no sexual activity was allowed. It is said that God came upon the mountain and that under penalty of death no one except for Moses was allowed to step forward:

And it came to pass on the third day in the morning that there were thunders and lightnings, and a thick cloud upon the mount and the voice of the trumpet exceeding loud; so that all the people that was in the camp trembled ... And all the people saw the thunderings, and the lightnings, and the noise of the trumpet, and the mountain smoking. (Exodus 19:16; 20:18)

[After the laws were given, the people of Israel offered sacrifices and]: They saw the God of Israel and there was under his feet as it were a paved work of sapphire stone, and as it were the body of heaven in his clearness ... And the sight of the glory of the Lord was like devouring fire on the top of the mount in the eyes of the children of Israel. (Exodus 24:10, 17)

There are several features in the foregoing description that resemble prominent characteristics of the Ayahuasca experience. Before I turn to these, however, let me underline the three-day purification, including the abstention from sexual activity. In all traditional contexts of Ayahuasca use, such restrictions are standard.⁵

Turning to the experience of theophany itself, I shall highlight three features which are also common with Ayahuasca. The first is fire. In all contexts of its use, the Ayahuasca experience is characterized as an encounter with light. People who have partaken of the brew often speak of supreme light, many times in the form of fire. In advanced levels of Ayahuasca inebriation, the seeing of light is accompanied by profound religious and spiritual feelings. On such occasions, one often feels that in seeing the light one is encountering the ground of all Being—that which is the source of everything that exists and the power that sustains the cosmos, life, and the mind. Many identify this power as God. In Shanon (2002a), I devote special discussion to the experiences of supreme light. By way of example here is a report furnished by one of my informants:

In front of me was a most brilliant source of light, like a lantern of many, many facets. I knew that were I to look at it straight ahead I would collapse and perhaps die. Thus, I turned my head. During this experience, I felt as if I was losing my sense of self and the faculty of memory.

The second feature to be noted is the fear of death. Such fear is very common with Ayahuasca. Indeed, drinkers of the brew often feel that they are about to die. Significantly, as noted above, etymologically

the term “ayahuasca” is associated with death.

Third is synesthesia, that is, the blending of percepts pertaining to different sensory modalities. In the biblical text cited above, we read that the Children of Israel saw the thunder and the noise of the trumpet. Both a review of the anthropological literature and my own empirical studies reveal that the seeing of auditory material is very common with Ayahuasca. Other synesthetic effects are also encountered, but they are less common (for further discussion, see Shanon 2003d).

Going on with Moses' life, I now note the fourth episode:

And Moses said unto the Lord. See, thou sayest unto me, Bring up this people; and thou hast not let me know whom thou wilt send with me. Yet thou hast said, I know thee by name, and thou hast also found grace in My sight. Now therefore, I pray thee, if I have found grace in thy sight, shew me now thy way, that I may know thee, that I may find grace in thy sight ... And he said, My presence shall go with thee, and I will give thee rest. And he said unto him, If thy presence go not with me, carry us not up hence ... And the Lord said unto Moses, I will do this thing also that thou hast spoken: for thou hast found grace in my sight, and I know thee by name ... And he said, I will make all my goodness pass before thee, and I will proclaim the name of the Lord before thee; and will be gracious to whom I will be gracious, and will shew mercy on whom I will shew mercy. And he said, Thou canst not see my face; for there shall no man see me, and live. And the Lord

said, Behold, there is a place by me, and thou shalt stand upon a rock. And it shall come to pass, while my glory passeth by, that I will put thee in a cleft of the rock, and I will cover thee with my hand while I pass by. And I will take away mine hand and thou shalt see my back parts; but my face shall not be seen. (Exodus 33: 12–23)

This episode is most amazing. Indeed, it has perplexed traditional Jewish scholars throughout the ages. How can God have a face and a back? How can any part of Him be seen? Maimonides, the great Medieval scholar and rationalist philosopher, explained that in this context the epithets ‘Face’ and ‘Behind’ refer respectively to higher and lower levels of man’s understanding of the Divine or to central or peripheral aspects of His essence (see Maimonides 1963). But again, the Ayahuasca experience suggests another explanation. Seeing creatures without being able to see their faces is a common aspect of the Ayahuasca experience. This is explicitly noted in the folklore of various Amerindian groups and corroborated in my own investigation. In one of the interviews I conducted with non-indigenous experienced drinkers of Ayahuasca in Rio de Janeiro, in response to my (standard) query as to the most impressive Ayahuasca vision that the informant had had, I received the following description:

I saw a creature. It was a woman, but not a normal person, not a regular human being. I saw this woman clearly, but I could not see her face. I so much wanted to see her face, and I implored her Please, please show your face to me. She walked forward, away from me, with her back to

me. I continued to implore her. Very swiftly she turned her head backwards, towards me. It was so swift that I could hardly see anything. The only thing I detected was a smile. She had smiled at me in a fashion which was both benevolent and slightly mocking, as if to indicate how small I was as a human being. And then she went on walking with only her back towards me.

What I find most striking in the biblical description is not only God's hiding of his face, but Moses' entreating. What happens during an Ayahuasca session, and in particular what one sees in the visions that the brew induces, is not merely a function of the brew itself. The person partaking of the brew has a most important contribution as well. With the same quantity of the same brew, different persons may experience visions of different degrees, as may a single person in different contexts. It is as if what happens during an Ayahuasca session is an interaction, a *pas de deux*, between the brew and the person who has partaken of it. As every long-term user of Ayahuasca discovers, with experience one learns to handle the brew and the mental energies it generates. And with experience one can go farther and advance in one's journeys in the regions of non-standard consciousness. As explained in detail in Shanon (2002a, 2002b), with experience one's interaction with one's visions becomes more active. At the beginning, one only sees 'things', later (or with higher levels of inebriation), one may step into scenes. With more experience, one can interact with the entities, creatures or objects that one sees in one's visions. In the most advanced (hence, rare) cases, one might even direct (as does the director of a film)

what is going to happen during the vision. Moreover, whereas the novice is utterly passive, advanced drinkers of Ayahuasca will often exercise more effort and attempt to penetrate the 'Ayahuasca world' more deeply. Some people may be more insistent than others. Facing a gate, some will venture to enter; others will be afraid to do so; seeing a door, some will attempt to open it, whereas others will pass by; if the door does not open, some will insist, implore, perhaps pray, hoping that it eventually opens, revealing more and more secrets. Indeed, many see the Ayahuasca experience as precisely that—an occasion to discover secrets—of this or other realities. My own investigations indicate that it is precisely the person with this attitude (as compared, for instance, to those who partake of the drink just in order to be cured and to gain well-being) who has the most powerful visions. Having such an attitude is symptomatic of certain personality traits; these include inquisitiveness, venturesomeness, courage, daring, determination, insistence, perseverance, as well as a propensity to be attracted to the magical and secretive. Reading the Scriptures reveals that Moses exhibited all these personality traits. In fact, we see this in his very first encounter with the Divine, the first episode examined here, that of the bush in the desert.

Not indicated in the biblical texts associated with Moses is the seeing of disembodied eyes. This, however, is a feature noted in the most explicit visual description of Divine revelation—that in the first chapter of the book of Ezekiel, known as the Vision of the Chariot. In an independent analysis (Shanon 2003b) I have compared this famous biblical account with powerful

Ayahuasca visions and marked significant similarities between the two. I shall note that the latter are also reminiscent of descriptions of celestial realms in the Jewish mystical tradition known as the literature of the *Merkava* (chariot) or *Heikhalot* (palaces), which spans from the second to the fifth century CE.

The fifth and last item pertaining to Moses that I would like to mention as symptomatic of a psychedelic experience is that noted by all who saw Moses when he came back the second time from the Mount, bringing the tables of the Law—the skin of [Moses'] face shone (Exodus 34:30). I have found this to be a very common, practically universal, experience: after Ayahuasca sessions, people seem to be shining—they look younger; the skin of their face is smooth, their eyes are full of light, and they appear to be especially beautiful.

Let us take count. Inspecting various episodes in the life of Moses, one encounters striking similarities with features characteristic of the altered states of consciousness induced by the Amazonian brew Ayahuasca. Indeed, the biblical episodes describe experiences that are among the most common with this brew. These include serpentine metamorphosis, synesthesia, intense light, seeing creatures without faces and the encounter with the Divine. Whereas the detection of light and the encounter with the Divine are not specific to Ayahuasca, the other features noted are especially symptomatic of this particular entheogen. Having established the basis for the characterization of Moses' special religious experiences as DMT-induced altered states of consciousness, let me turn to the psychotropic substance at hand and

examine whether it could have been within Moses' (and that of his fellow Israelites) reach. The following discussion will attempt to show that the answer to this question is a definite yes.

Shittim—a Possible Biblical Entheogen

In the book of Exodus, immediately following the account of the Mt. Sinai theophany, we read:

And the Lord spake unto Moses, saying, Speak unto the children of Israel, that they bring me an offering: of every man that giveth it willingly with his heart ye shall take my offering. And this is the offering which ye shall take of them: gold, and silver, and brass. And blue, and purple, and scarlet and fine linen and goats' hair. And rams' skins dyed red, and badgers' skins and shittim wood. Oil for the light, spices for anointing oil, and for sweet incense. Onyx stones, and stones to be set in the ephod [the high priest's vestment, B.S.], and in the breastplate. And let them make me a sanctuary; that I may dwell among them. According to all that I shew thee, after the pattern of the tabernacle, and the pattern of all the instruments thereof, even so shall ye make it. And they shall make an ark of shittim wood ... and thou shalt overlay it with pure gold, within and without shalt thou overlay it, and shalt make upon it a crown of gold round about ... And thou shalt make staves of shittim wood, and overlay them with gold. And thou shalt put the staves into the rings by the sides of the ark, that the ark may be borne with them ... Thou shalt also make a table of shittim wood ...

and thou shalt overlay it with pure gold, and make thereto a crown of gold round about ... and thou shalt set upon the table shewbread before me always ... And thou shalt make boards for the tabernacle of shittim wood standing up ... and thou shalt make ... sockets of silver under the ... boards ... And thou shalt make bars of shittim wood ... and thou shalt overlay the boards with gold. (Exodus 25: 1–14, 15–29, abridged)

And thou shalt make a vail of blue, and purple, and scarlet, and fine twined linen of cunning work ... And thou shalt make an hanging for the door of the tent, of blue, and purple, and scarlet, and fine twined linen, wrought with needlework. And thou shalt make for the hanging five pillars of shittim wood, and overlay them with gold, and their hooks shall be of gold; and thou shall cast five sockets of brass for them. (Exodus 26: 31, 36–7)

And thou shalt make an altar of shittim wood ... and thou shalt overlay it with brass ... And thou shalt make staves for the altar, staves of shittim wood, and overlay them with brass. (Exodus 27: 1, 2, 6)

The materials listed throughout this passage are precious. This is obvious for gold, silver, and precious stones. The dyes of blue, purple, and scarlet were extremely costly in the ancient Near East and they were highly valued. The only item that stands out is 'shittim', a type of wood. As indicated by the long citation, this item plays a central role in the construction of the tabernacle —the frame of the tent, the ark, the table, the supportive boards are all made of this tree.

Let me, before going on, make a linguistic clarification. In the original Hebrew text, the expression is "atzei shittim." Atzei is a plural form of etz, tree or wood, and shittim is the plural of shita, acacia. The proper translation of atzei shittim should have been "acacia trees". Indeed, the modern *Jerusalem Bible* translates the expression at hand either to "acacia" or to "acacia wood."

Why shittim? Traditional Jewish scholars have explained that the poor; those who do not have at their possession gold and silver; should provide wood. I would like to propose another explanation—the tree having psychoactive properties. There are many varieties of the tree, and it grows not only in the Sinai desert, but also in Australia, Mexico, and South America. Subspecies growing in the Sinai peninsula and in the Negev desert of southern Israel and containing DMT are *Acacia albida* (*Mimosaceae*), *Acacia lactea* (*Mimosaceae*) and *Acacia tortilis* (*Mimosaceae*). Also containing DMT are *Acacia seyal* (*Mimosaceae*) and *Acacia nilotica* (*Mimosaceae*), which grow in Egypt (see Shulgin and Shulgin, 1997). Feliks (1997) proposes that the biblical shittim is *Acacia albida*; Duke (1983) associates the shittim with *Acacia seyal*. However, Danin (personal communication), the present-day leading expert on the plants of the Land of Israel, has pointed out to me that neither of these plants grows in the Sinai peninsula. (See also Alon, 1993; as well as on the Flora of Israel Online website, <flora.huji.ac.il> and website of the Hebrew University botanical gardens <www.botanic.co.il/A/catalog.asp>.) Thus, the most likely candidates seems to be *Acacia tortilis* and *Acacia lactea*. In sum, while the particular identification of the biblical

tree might be unsettled, it is a fact that some acacia subspecies that grow in the region do contain DMT.

The acacia tree is mentioned again in later Jewish texts. In the Talmud (Tractate Gittin, 69b) it is noted that the sap of Acacia serves as a medicine. In another context, the Talmud explains that the word shittim is derived from the word *shtut* (nonsense) (Tractate Sanhedrin, 106a). Is this an allusion to the psychological modifications that this plant can induce? Curiously, after enumerating the medicinal qualities of the plant, one Talmudic interpreter notes that some say that this is the *sneh* [the aforementioned bush from the biblical story] in biblical language (see Krispil 1988). Elsewhere in the Talmud (Tractate Avoda Zara, 24b) as well as in the early Jewish hermeneutical texts (Genesis Rabbah, 54) the following extolling poem appears (cited in Elior 2004, p. 252):

Sing, O sing, acacia tree
Ascend in all thy gracefulness
With golden weave they cover thee,
The *devir*⁶ palace hears thy eulogy
With diverse jewels art thou adorned.

While, to my knowledge, there are no contemporary data on medicinal or psychoactive use of acacia in the Near East, such use is encountered in South America. The indigenous people of the Brazilian state of Pernambuco use the bark of the roots of one species of acacia, *Mimosa hostilis* (Mimosaceae) in entheogenic ceremonies; in the local dialect it is called *jurema* (see de Mota 1979, 2005). As explained above in conjunction with Ayahuasca, for the DMT in *jurema* to have an effect, a second plant, one containing MAO inhibitors, must be added to it. Dr. Grünwald, a Brazilian anthropologist

who participated in *jurema* ceremonies, investigated the matter and could not discover any other plant admixture (see Grünwald 2005). I, with him, leave the issue open.

The acacia was regarded as sacred by the ancient Egyptians. In their mythologies the tree enjoys a very special status, being associated with the birth of the god Osiris and of that of the pharaohs (Helck 1975). Osiris was said to have been killed by being enclosed in a coffin from which an acacia tree sprouted; out of this tree Osiris (in other versions, Horus) came out to life. Indeed, the ancient Egyptians regarded acacia as the “tree of life” as well as a divine hypostasis (Koemot 1994). Later legends linked the acacia tree with death and the afterlife. According to the “Book of the Dead” some children lead the deceased to the tree, and coffin texts describe that parts of it were squashed and bruised by the deceased, and then employed with magical healing effects (see <www.pantheon.org/articles/a/acacia.html>). Indeed, acacia served the ancient Egyptians for a variety of medicinal usages, and they also used it for the construction of sarcophagi (Krispil 1988). Moses, we may recall, came from Egypt, and some have even speculated that he was an Egyptian prince (see Freud 1953 [1939]).

These ancient Egyptian myths and legends are pertinent to our discussion here in still another respect. Manifestly, it is a myth of death and rebirth (and in fact it has been suggested that it is at the root of the Christian theology of resurrection as well). Death and rebirth are key facets of both the ayahuasca experience and the Amerindian lore associated with it. Recall that the name Ayahuasca means the vine of death.⁷

Recently, a personal communication came to my attention of the Israeli painter Ron Gang. Gang specializes in the painting of acacia trees in the desert areas of southern Israel (see www.rongang.net and Figure 2). He notes that Bedouins have told him that they have the traditional custom of conducting oathmaking rituals under these trees. Lastly, and directly related to the old Egyptian myths, is the use of acacia branches as a central symbol of Freemasonry (Pike 1871).

Acacia and Harmal

Connecting the different threads of our discussion together, let me consider the two plants, acacia and harmal, *in tandem*. Recall that the key psychoactive molecules of the Ayahuasca vine are harmine and harmaline, whose name is derived from that

of the Mideastern bush harmal. Following my acquaintance with the Brazilian acacia species *jurema*, I learned that the seeds of *Peganum harmala* can be added to *jurema* and thus a brew can be prepared which, like Ayahuasca, is a mixture of DMT and MAO inhibitors. In a private setting in Brazil, I have partaken of such a brew. Unlike mushrooms, peyote or San Pedro (*Trichocerus pachanoi*), the South American cactus rich in mescaline) which induce very different psychological experiences, the *jurema-cum-peganum* concoction impressed me (as well as several other people I have conversed with, all having extensive familiarity with Ayahuasca) as exhibiting a definite resemblance to Ayahuasca. One might say that even though the experiences induced by the two potions are not identical, the feeling is that they both belong to the same family. By way of



Figure 2 'Acacia', a painting by Ron Gang (courtesy of Ron Gang)

analogy, I would say that the Ayahuasca and jurema brews are similar in the way red and white wines are similar to one another; and different from other major entheogens in a manner analogous to the way wines differ from other alcoholic beverages.

Other Cases

There are several additional cases in ancient Israelite and Jewish history in which the use of psychoactive plants other than harmal or acacia is suggested; the first two cases involve biblical stories, the others concern post-biblical reports and exegesis. The topics of these additional cases are neither harmal nor shittim, but they are all suggestive that the ancient Israelites regarded psychoactive plants in high esteem.

The first story concerns Rachel, Jacob's beloved wife. Jacob loved Rachel much more than he did Leah, her sister whom his father-in-law obliged him to marry as well. "But when the Lord saw that Leah was hated, he opened her womb, but Rachel was barren" (Genesis 29:31). "And when Rachel saw that she bare Jacob no children, Rachel envied her sister; and said unto Jacob, Give me children or else I die" (Genesis 30:1). All this is the direct background to our episode, which goes as follows:

And Reuben [Jacob's first son, whose mother is Leah] went in the days of wheat harvest, and found mandrakes in the field, and brought them unto his mother Leah. Then Rachel said to Leah: Give me, I pray thee, of thy son's mandrakes. And she said unto her: Is it a small matter that thou hast taken my husband? and wouldest thou take away my son's mandrakes also? And Rachel said, Therefore he shall lie

with thee tonight for thy son's mandrakes.
(Genesis 30: 14–15)

This story is truly amazing. After the biblical text makes it very clear that the most important thing in Rachel's life was the love of her husband whom she had to share with her hated sister, we are told that this very Rachel is willing to sacrifice her relationship with her husband in order to obtain some mandrakes. Furthermore, it is noted that Leah, too, greatly cherished the mandrakes, for she compares the taking away of these to the taking away of Jacob, the target of rivalry and animosity between the two sisters. Apparently, the reason the narrator inserts this episode within the main story, whose subject matter is Jacob's relationship with his wives and the manner in which his sons (the founders of the twelve tribes of Israel) were begotten, is to indicate how valuable mandrakes were in early Israelite society. Mandrakes are, of course, highly psychoactive (see, for instance, Schultes and Hofmann 1992).

The second biblical story is the Ur-story of them all, that of the Tree of Knowledge. This is one of the most important episodes in the Old Testament, and one of the most intriguing, and the literature about it is vast. Here, let me confine myself to two observations that directly concern the topic of entheogens. The first observation has to do with the cultural beliefs that the story presupposes. Whatever the interpretation one gives to this pivotal story, one thing is clear—it is being told in a context in which people believed that knowledge could be obtained by means of the ingestion of plant material. The second observation concerns the striking similarities between

this biblical story and Amerindian Ayahuasca mythologies. Ayahuasca is associated with more mythologies than any other South American psychoactive agent. In particular, there are many mythological accounts of the origin of the brew. I attribute this to the fact that the discovery of this brew is indeed mind-boggling. As noted above, Ayahuasca requires the combination of two plants, each of which alone does not produce a psychedelic effect. The Amazonian forest is so abundant that it is extremely unlikely that the combination could have been discovered by means of a simple method of trial and error. As acknowledged by several modern scientists, the discovery presents an enigma (see Furst 1976; Naranjo 1983; Narby 1998). Different Amerindian tribes have different stories about the origins of Ayahuasca. However, an examination of about ten such stories that I have found in the anthropological literature reveals some common themes. These include snakes and an act of a crime, usually an illicit sexual act. Furthermore, the first encounter with Ayahuasca is usually characterized as a cataclysmic event. Before, human life was paradisiacal—people lived in harmony with nature, all their basic survival needs were readily provided for, and they could also converse with the animals; since the appearance of Ayahuasca, human life has involved work and struggle. The discovery of Ayahuasca is also regarded as the birth of human culture. For instance, with it people discovered knowledge, their tribal identity, marital laws, and music (see, for instance, Reichel-Dolmatoff 1975 and Luna and White 2000). The resemblance to the biblical story of the Tree of Knowledge requires no further comment.

The next case is that of the incense employed in the Temple of Jerusalem (the *ktoret*, also known as *ktoret ha-samim*, the incense of drugs). This incense contained a series of ingredients, the identity of most not known to us today. Its recipe was held secret, known only to one priestly family, and with the destruction of the Temple it was lost. The *ktoret* was used daily in regular temple services, but only once a year was it offered inside the Holy of Holies, the inner sanctum of the Temple. This was done alone, by the High Priest, on Yom Kippur, the holiest day in the Jewish calendar. The Talmud narrates that there was a danger the High Priest might not return sound and well, and that therefore a chain of fine gold was attached to his robe trailing outside for others to monitor his well-being. Drawing on a phonological similarity of the word "ktoret" and the Hebrew word for "connectivity," the Zohar, the great kabbalistic text, explains that the *ktoret* established a connection between God and Man.

The sacred incense is also at the center of two other episodes from the life of Moses, both involved transgression with fatal consequences. In the first, Nadab and Abihu, the sons of Aaron, the first High Priest and Moses' brother, offered the incense not according to the regulations and without permit, and were immediately killed by fire that came out of the *ktoret* (Leviticus 10: 1–7). The second episode concerns the revolt by the priest family of Korah against the authority of Moses; this revolt too involved an illicit use of the incense. The revolutionaries were punished by death, and later an epidemic broke out among the people. Aaron cured the afflicted using the incense (Numbers 16–17). Bringing the two

episodes together; later Jewish scholars and kabbalists explained that the *ktoret* was a drug both deadly and of great healing power.

For quite some time now, it has been suggested that the term 'cannabis' is a cognate of the Hebrew term *knei bosem*, which means fragrant reeds and is indicated as one of the ingredients of the sacred incense employed first in the tabernacle and later in the two temples of Jerusalem (for the original hypothesis, see Benetowa 1967 [1936]; for further discussion, see Bennett and McQueen 2001). Very recently, I have been told of a yet unpublished research project currently conducted by Mechoulam and Moussaieff (personal communication). These Israeli pharmacologists have discovered that the *Boswellia* resin is a mild psychoactive agent. This resin, *levona* in Hebrew, was a major component of the incense burned in the Jewish Temple in Jerusalem. It was also used in religious rituals by the ancient Egyptians and Greeks, as well as from the fourth century by Christians. Yet another curious piece of information is encountered in the writings of first-century Jewish historian Josephus Flavius who mentions that on the mitre of the Jewish High Priest there was golden image of the plant *Hyoscyamus*. This plant is known to be highly psychoactive (see Schleifer 1979, pp. 169–70).

Lastly, after this paper had been written, I asked an orthodox Jew well versed in the rabbinical and kabbalistic literature to read it.⁸ He directed me to the writings of Rabbeinu Be'cha'yei ben Asher, a medieval Jewish scholar (1255–1340) famous for his interpretation of the Torah. Rabbeinu Be'cha'yei writes that the purest of foods were created at the very beginning of

Creation in order to allow for the attainment of higher knowledge. He explicitly relates this to the biblical tree of knowledge, and comments further that such higher knowledge can also be gained through the use of drugs and medicines available at his time. In addition he notes that the Manna had such qualities as well (recalling the contemporary work of Merkur on the Manna as an entheogen mentioned earlier in this paper).

Biblical Entheogens: a Speculative Conclusion

By way of conclusion, let me summarize the line of argumentation presented here. In the southern regions of the Holy Land and in the Sinai peninsula there grow two plants containing the molecules that together constitute the key ingredients of one of the most powerful psychedelic substances in existence, the Amazonian brew Ayahuasca. One plant is *Peganum harmala*, *harmal* in Arabic, the other is *Acacia*, *shita* (plural, *shittim*) in Hebrew; they contain beta-carbolines and DMT, respectively. In the Bible, there are no indications of the use of the first plant, but there is clear evidence that the second plant was most valued. From it were made the tabernacle and the ark in which the Mosaic Tablets of the Law were guarded. The acacia tree was also regarded as sacred by the ancient Egyptians. Nowadays, traditional Arab and Bedouin healers employ both plants in their curative practices. Likewise, Jews throughout the Middle East use *harmal* in various forms for medicine and sorcery.

In the Bible we discover clear indications that psychoactive plants were highly valued in ancient Israelite society. Remarkably, several

key episodes in the life of Moses exhibit features that are prominent symptoms of the Ayahuasca experience. These episodes include Moses' first encounter with the Divine and the Theophany at Mt. Sinai, traditionally regarded to be the most important event in all of Jewish history. Later Jewish rabbinical and mystical texts lend further support for the present entheogenic hypothesis.

Taken together, the botanical and anthropological data on the one hand, and the biblical descriptions as well as later Jewish hermeneutics on the other, are, I propose, suggestive of a biblical entheogenic connection. Admittedly, the smoking gun is not available to us. However, so many clues present themselves which, like the pieces of a jigsaw puzzle, seem to cohere into an intriguing unified whole. I leave it to the reader to pass his or her judgment.

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Notes

1 A good number of years passed between the conception of the ideas presented in this paper and their coming out in print. To a great extent

this is due to the non-orthodox, iconoclastic nature of the thesis suggested here. I appreciate the open-mindedness of the editors of *Time & Mind* in dealing with this paper. An aural presentation of these materials was delivered at the Conference on Entheogenesis in Vancouver in February, 2004.

- 2** After all, would one ever conceive writing about music without ever having heard music him/herself?
- 3** However, there are reports that at sufficiently high dosages the harmaline alkaloids can produce hallucinations even without the addition of DMT (see Shanon 2002; Ott 1993).
- 4** This is a play on words. The text means both 'The brew is force', etc., and 'Give me force', etc.
- 5** These restrictions are with reason. They come by way of minimizing adverse physiological reactions as well as physical malaise during the course of the inebriation.
- 6** The *devir* is the *inner sanctum*, the holy of holies, of the Jewish temple.
- 7** Interestingly, the Greek myths associated with the mysteries of Eleusis mentioned above also have death and rebirth as their main theme (Wasson, Kramrisch, Ott, and Ruck 1986).
- 8** This person did not want his name to appear in print.

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